



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,823	12/28/2001	Shinichi Hoshino	500.41052X00	5554
24956	7590	06/13/2006		
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314			EXAMINER SHECHTMAN, CHERYL MARIA	
			ART UNIT 2163	PAPER NUMBER

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,823

Applicant(s)

HOSHINO ET AL.

Examiner

Cheryl M. Shechtman

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-7, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to Amendment filed March 21, 2006. Claims are 1-3, 5-7, 9, and 10 are pending. Claims are 1-3, 5-7, 9, and 10 are amended. Claims 4 and 8 were previously cancelled.

Response to Arguments

2. Referring to the 35 USC 112 second paragraph rejection of claims 1-3, 5-7, 9, and 10, Applicant's amendments to the claims are acknowledged. However, the rejection of claim 3 is maintained due to failure to overcome the 35 USC 112 second paragraph deficiencies raised in the prior Office Action. Claim 9 as amended is now also rejected under 35 USC 112 second paragraph due to the presence of further deficiencies.

3. Applicant's arguments filed with respect to claims 1-3, 5-7, 9, and 10 have been fully considered but they are not persuasive.

4. Referring to claims 2, 3, 6, 7, 9, and 10, Applicant argues that Jacobs does not disclose stored JAVA programs, specifically that the stored JAVA runtime interpreter cartridge of Jacobs (col. 8, lines 15-33) is not a stored JAVA program because Jacob's server-side is not a server in a DBMS (Database Management System), but a web application server. Examiner respectfully submits that only claims 3 and 7 require the stored program to be stored within a DBMS, that Jacobs teaches that cartridge information is stored for later access as metadata (col. 9, lines 24-42), and furthermore

that the metadata is previously stored by a cartridge execution engine, which performs the function of a DBMS, i.e. processes or instantiates a transaction (Jacobs, col. 22, line 39 to col. 23, line 16; col. 31, lines 39-59¹). As such, Examiner maintains with reference to claims 3 and 7, that the combination of Jacobs/Fujita does teach a stored JAVA program which is beforehand stored in a database management system.

5. Referring to claims 1, 2, 5, 6, 9, and 10, Applicant argues that the combination of Jacobs and Fujita does not disclose addressing to a commit/rollback request, however Examiner respectfully disagrees. Jacobs teaches addressing to a commit or browser request (Jacobs, summary, lines 43-467; col. 6, lines 33-36; col. 27, line 63-col. 28, line 6, Fig. 7E). In addition, Fujita discloses a 'commit' request for a resource (see Fig. 3; col. 7, lines 50-64). As such, Examiner maintains that the combination of Jacobs and Fujita does disclose addressing to a commit/rollback request.

6. Referring to claims 1, 2, 5, 6, 9, and 10, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., measures for maintaining resources at a COMMIT/ROLLBACK request of the transaction) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

7. Referring to claim 1, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which

¹ The cartridge execution engine is a DBMS (or database engine, as defined by the Microsoft Office

applicant relies (i.e., *identifying resources which a source application calling a Java stored program has already reserved into a DBMS and resources reserved into the DBMS by execution of the Java stored program*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Referring to claims 1 and 5, Applicant argues that the combination of Fujita/Jacobs fails to teach or suggest reserving a resource, at execution of a query from the stored program and registering information about said reserved resource in a resource managing table, said resource managing table corresponding to resources already reserved in execution of the query having invoked the stored program. However, Examiner respectfully disagrees. The combination of Fujita/Jacobs discloses reserving/committing a resource in response to a commit request (Fujita, col. 7, lines 50-64) from a stored program of an interpreted language (Jacobs, col. 8, lines 15-33), and registering information about the reserved resource in a Resource Managing (RM) table T1, said resource managing table corresponding to resources already reserved in execution of the query having invoked the stored program (Fujita, see Fig. 3, element 11; col. 9, lines 4-13; col. 13, line 64 – col. 14, line 6, Fig. 6, elements 201-203). As such, Examiner maintains that the combination of Fujita/Jacobs does teach reserving a resource, at execution of a query from the stored program and registering information about said reserved resource in a resource managing table, said resource managing

Dictionary, fifth edition) in that it processes metadata and interacts with other databases (Jacobs, col. 22,

table corresponding to resources already reserved in execution of the query having invoked the stored program.

Referring to claims 1 and 5, Applicant also argues that the combination of Fujita/Jacobs fails to teach or suggest referring, at release of a transaction from the stored program, to a release resource managing table and the resource managing table to determine a reserved resource which is registered in the resource managing table and releasing the reserved resource having been determined by the referring step. However, Examiner respectfully disagrees. The combination of Fujita/Jacobs discloses at a lock releasing request send from the Resource Manager (RM) to a Lock Manager (LM), a Lock Manager (LM) table is looked up to determine whether the lock release request for a resource is possible, in other words, a lock release request for a resource is only possible only if a resource listed in the Resource Manager table is not listed in the Lock Manager table, that is, the resource is not locked and can be released (Fujita, col. 13, line 65 – col. 14, line 15; col. 14, lines 21-46; col. 9, lines 5-67). Furthermore, the combination of Fujita/Jacobs discloses releasing the lock on the resource being determined by the referring step (Fujita, col. 9, lines 46-57; col. 14, lines 21-46). As such, Examiner maintains that the combination of Fujita/Jacobs does teach referring, at release of a transaction from the stored program, to a release resource managing table and the resource managing table to determine a reserved resource which is registered in the resource managing table and releasing the reserved resource having been determined by the referring step.

The rejections of claims 1-3, 5-7, 9, and 10 are therefore maintained for the reasons stated above.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 3 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 3, the claim recites the limitation "reserving a resource at execution of a query ... and registering information about said reserved resource in a resource managing table, which is corresponding to resources already reserved...". However, it is unclear as to what corresponds to resources already reserved- the information registered or the resource managing table.

Referring to claim 9, the claim recites the limitation: "the stored JAVA program", in the second paragraph of the claim.

There is insufficient antecedent basis for this limitation in the claim.

Due to the 35 USC 112 rejections, the claims have been treated on their merits as best understood by the examiner.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 1, 2, 5, 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 5,845,117 issued to Fujita, and further in view of US Patent Number 6,225,995 B1 issued to Jacobs et al (hereafter Jacobs).

Referring to claim 1, Fujita discloses a database management method for addressing to a commit request or a rollback request in a stored program written in an interpreted language (Abstract; Fig. 3), said method comprising the steps of:

- reserving a resource at execution of a query from the stored program ('commit' request for a resource, see Fig. 3; col. 7, lines 50-64) and registering information about said reserved resource in a resource managing table, said resource managing table corresponding to resources already reserved in execution of the query having invoked the stored program ('Resource Manager (RM) table T1', see Fig. 3, element 11; col. 9, lines 4-13; col. 13, line 64 – col. 14, line 6, Fig. 6, elements 201-203);
- referring, at release of a transaction from the stored program (lock releasing request sent from Resource Manager (RM) to Lock Manager (TM), Fig. 6, element 206, col. 13, line 65 – col. 14, line 15; col. 9, lines 14-19), to a release resource managing table ('Lock Manager (LM)' table T2 is looked up, Fig. 3, element 12; col. 9, lines 20-45; col. 14, lines 21-46) and the resource managing table to determine a reserved resource which is registered in the

Art Unit: 2163

resource managing table and which is not registered in the release resource managing table (col. 9, lines 5-67); and

- releasing, the reserved resource having been determined by said referring step (lock release of resources, col. 9, lines 46-57; col. 14, lines 21-46).

However, while Fujita discloses all of the above claimed subject matter, it remains silent as to a stored program of an interpreted language.

However, Jacobs teaches analogous art that includes a stored program of an interpreted language (JAVA runtime interpreter cartridge, col. 8, lines 15-33).

It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Fujita to include a stored program of an interpreted language, as taught by Jacobs.

The ordinary skilled artisan would have been motivated to modify Fujita per the above for the purpose of enabling a programmable cartridge to act as an interpreter for an application and that enables web application developers to write server side applications to process browser requests (Jacobs, col. 8, lines 15-33).

Referring to claim 2, the limitations of the claim repeat the respective limitations of claim 1 above, including a stored JAVA program (Jacobs, col. 8, lines 15-33) and therefore claim 2 is rejected for the same reasons as claim 1.

Referring to claims 5 and 6, the limitations of the claims repeat the respective limitations of claim 1 above in the form of an apparatus (Fujita, Abstract; Jacobs, col. 4, lines 20-22; col. 31, lines 39-43). Claims 5 and 6 are therefore rejected for the same reasons as claim 1.

Referring to claims 9 and 10, the limitations of the claims repeat the respective limitations of claim 1 above in the form of a computer program (Jacobs, col. 4, lines 20-22). Claims 9 and 10 are therefore rejected for the same reasons as claim 1.

10. Claim 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs, and further in view of Fujita.

Referring to claim 3, Jacobs discloses a database management method (col. 4, lines 20-22; col. 31, lines 39-43) for addressing to a commit request (summary, lines 43-46; 'browser request', col. 6, lines 33-36; col. 27, line 63-col. 28, line 6, Fig. 7E) or a rollback request in a stored JAVA program ('JAVA runtime interpreter', col. 8, lines 15-33; code is stored in storage device (Fig. 1, element 110), col. 6, lines 14-23; 'software modules' or 'cartridges', col. 6, lines 33-36, col. 7, lines 35-65; 'exemplary cartridges', col. 8, lines 15-33; col. 20, lines 16-30), said method comprising the steps of:

- analyzing a query request input from a terminal thereto ('browser request', col. 4, line 65- col. 5, line 5; col. 6, lines 33-36; col. 7, lines 1-15) and generating an execution module (creation of 'new cartridge instance', col. 7,

lines 16-28; col. 7, line 35- col. 8, line 33²; 'Resource Manager', col. 10, lines 25-59³);

- reserving, when the stored JAVA program which is not contained in the execution module (col. 9, line 60-col. 10, line 10⁴) and which is beforehand stored in a database management system (DBMS) ('metadata', col. 9, lines 24-42⁵; 'DBMS', col. 31, lines 39-59; col. 22, line 39 to col. 23, line 16) is invoked at execution of the execution module (refer to example of cartridge (C1) used in col. 10, lines 25-45⁶), resources to be used by the stored JAVA program (cartridge authentication, col. 9, line 60-col. 10, line 24), checking resources to be used by the stored JAVA program and determining resources to be set as resources unavailable to another program until a transaction is completed ('shutdown() routine', col. 7, line 49-col. 8, line 7; col. 11, line 50-col. 12, line 63; col. 30, line 58-col. 31, line 5 (Fig. 7I)) and resources to be set as unavailable resources until the stored JAVA program is terminated ('shutdown() routine', col. 7, line 49-col. 8, line 7; col. 11, line 50-col. 12, line 63; col. 12, line 65- col. 13, line 20, col. 13, lines 48-67), and registering information about said reserved resource in a resource managing table, which is corresponding to resources already reserved in execution of the query

² Refer to the cartridge routines that are executed within the Cartridge modules.

³ The Resource Manager manages the execution of the Cartridge modules (see lines 27-33).

⁴ After receiving a browser request, which includes a URL, the dispatcher sends the URL from the request to a virtual path manager that determines the cartridge, if any, associated with the URL. This is done by mapping the URLs to cartridges in metadata (Fig. 2, element 258).

⁵ Cartridge information is stored for later access as metadata.

⁶ Examiner respectfully asserts that Cartridge C1 is invoked by the virtual path manager through the browser requests made. The Resource Manager then determines, after receiving receipt of requests from the dispatchers, whether any existing instance of C1 is available.

having invoked the stored JAVA program ('Resource Manager table', see Fig. 5; col. 11, line 23 – 49);

- releasing, in response to an input of a transaction completion request (col. 12, line 65- col. 13, line 20; col. 30, line 58-col. 31, line 5 (Fig. 7I)⁷) or issuance of a commit statement from the program, the resources set as unavailable resources until the transaction is completed in the stored program ('release of cartridge instances' in response to completed browser requests, col. 13, lines 37-67).

However, while Jacobs teaches all of the above claimed subject matter and also teaches referring to a 'dispatcher state table' when releasing a cartridge resource (see Fig. 4, col. 12, line 7), Jacobs remains silent as to specifically:

- referring, at release of a transaction from the stored program, to a release resource managing table and the resource managing table to determine a reserved resource which is registered in the resource managing table and which is not registered in the release resource managing table; and
- releasing, the reserved resource having been determined by said referring step.

However, Fujita teaches analogous art that includes:

⁷ At the notification of a completed transaction, control returns to intercepting another browser request.

Art Unit: 2163

- referring, at release of a transaction from a stored program (lock releasing request sent from Resource Manager (RM) to Lock Manager (TM), Fig. 6, element 206, col. 13, line 65 – col. 14, line 15; col. 9, lines 14-19), to a release resource managing table ('Lock Manager (LM)' table T2 is looked up, Fig. 3, element 12; col. 9, lines 20-45; col. 14, lines 21-46) and a resource managing table to determine a reserved resource which is registered in the resource managing table ('Resource Manager (RM) table T1', see Fig. 3, element 11; col. 9, lines 4-13; col. 13, line 64 – col. 14, line 6, Fig. 6, elements 201-203) and which is not registered in the release resource managing table (col. 9, lines 5-67); and
- releasing, the reserved resource having been determined by said referring step (lock release of resources, col. 9, lines 46-57; col. 14, lines 21-46).

It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Jacobs to include referring, at release of a transaction from a stored program, to a release resource managing table and a resource managing table to determine a reserved resource which is registered in the resource managing table and which is not registered in the release resource managing table, and releasing, the reserved resource having been determined by said referring step, as taught by Fujita.

The ordinary skilled artisan would have been motivated to modify Jacobs per the above for the purpose of detecting deadlock in a multitasking system using a lock manager that manages resources that are locked by tasks (Fujita, col. 3, lines 20-50).

Referring to claim 7, the limitations of the claim repeat the respective limitations of claim 3 above in the form of an apparatus (Jacobs, col. 4, lines 20-22). Claim 7 is therefore rejected for the same reasons as claim 3.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl M Shechtman who can be reached on (571) 272-4018. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 5, 2006
CMS



UYEN LE
PRIMARY EXAMINER